AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-28. (CANCELED)

29. (CURRENTLY AMENDED) A method of performing a diagnostic or a therapeutic procedure on a patient using a target binding composition, said method comprising

providing to said patient an effective amount of a physiologically acceptable composition comprising an organized mobile multicomponent conjugate (OMMC) assembly comprising a lamellar structure defining a void and having incorporated at least two binding compounds B^1 and B^2 bound to said structure by anchor regions A^1 and A^2 which are the same or different and are selected from the group consisting of $CH_3(CH_2)_a$-W; $CF_3(CH_2)_a$-W; $CF_3(CF_2)_a$-W; $CF_3(CF_2)_aCH_2CH_2$-W; $CH_3(CH_2)_a$-O-$(CH_2)_b$-W; $CF_3(CF_2)_a$-O-$(CH_2)_b$-W; $CH_3(CH_2)_a$-S-$(CH_2)_b$-W; $CH_3(CH_2)_a$-S-S-$(CH_2)_b$-W, wherein a and b range from 16-32; $R^1O_2CCH_2(CW)CO_2R^1$ R^1 is a normal alkyl radical containing 16-24 carbon atoms; W is -O-; -CO-; $-CO_2$-; $-O_2C$-; -OCO-; $-O_2CO$-; -S-; -SO-; -OSO-; $-OSO_2$-; $-SO_2$-; $-OPO_2H$-; -NH-; -NHCO-; -NHCS-; $-NHSO_2$-; $-PO_2H$; $-PO_2$-; and $-OPO_2$- via linkers L^1 and L^2 and an effector molecule, said B^1 and B^2 binding to at least first and second affinity sites in said

target site, wherein a position of B^1 and B^2 relatively self-adjust to form an OMMC ensemble resulting in enhanced binding of B^1 and B^2 to said affinity sites, and

performing said diagnostic or said therapeutic procedure on said patient.

30. (CANCELED)

31. (CURRENTLY AMENDED) The method of claim 29 wherein B^1 and B^2 [[may be]] are the same or different C-or O-monosaccharides and glycosides selected from the group consisting of glucose, mannose, fucose, galactose, glucosamine, mannosamine, galactosamine, and sialic acid, oligosaccharides containing 1 to 10 furanose or pyranose units, amino acids, peptides containing 1 to 20 amino acid residues, flavonoids and isoflavonones C- or O- glucosides selected from the group consisting of rutin, neohesperidin dihydrochalone, phloridizin, hesperidin, hesperidin methyl chalcone, naringenin, and esculin, carminic acids selected from the group consisting of carmine, and 18b-glycyrrhetinic acid.

32. (CURRENTLY AMENDED) The method of claim 29 wherein L^1 and L^2 [[may be]] are the same or different neutral polymers or copolymers selected from the group consisting of polyethyleneglycol, polysorbates, polyglycerols, polyvinylalcohols, polyglycolate, and polylactate wherein the molecular weight of the said polymer and copolymer range from 1,000 to 10,000.

33. (ORIGINAL) The method of claim 29 wherein said lamellar structure is selected from the group consisting of CH_3-$(CH_2)_e$-X, CH_3-$(CF_2)_e$-X, CF_3-$(CF_2)_e$-X, CF_3-$(CF_2)_f$-O-$(CH_2)_g$-X, CH_3-$(CH_2)_f$-S-$(CH_2)_g$-X, CH_3-$(CH_2)_f$-S-S-$(CH_2)_g$-X, CH_3-$(CH_2)_g CO_2(CH_2)_h$-X, CH_3-$(CH_2)_f CONH(CH_2)_g$-X, CH_3-$(CH_2)_f NHCONH(CH_2)_g$-X, CH_3-$(CH_2)_f OCONH(CH_2)_g$-X, CH_3-$(CH_2)_f NH(CH_2)_g$-X, CH_3-$(CH_2)_f N[(CH_2)_g)_2$-X, CH_3-$(CH_2)_f SO_2(CH_2)_g$-X, CH_3-$(CH_2)_f SO_2(CH_2)_g$-X, CH_3-$(CH_2)_f N[CH_2)_g]_2$-X, CH_3-$(CH_2)_m NH(CH_2)_f CO_2(CH_2)_g$-X, CH_3-$((CH_2)_f)_2 N(CH_2)_g CONH(CH_2)_h$-, $RO_2CCH_2(CY)CO_2R$, wherein f, g, and h range from 1 to 5; X is selected from the group consisting of carboxylate, sulfonate, sulfate, phosphate, and phosphonate; Y is selected from the group consisting of -$(CH_2)_k$-X, -$NHCO(CH_2)_k$-X, -$OCO(CH_2)_k$-X, -$CH_2OCO(CH_2)_2$-CO^-_2; R is a normal alkyl radical containing 16 to 24 carbon atoms; and k varies from 2 to 6.

34. (CURRENTLY AMENDED) The method of claim 29 wherein A^1 and A^2 [[may be]] are the same or different and are selected from the group consisting of $CH_3(CH_2)_a$-W, $CH_3(CH_2)_a$-O-$(CH_2)_b$-W, $CH_3(CH_2)_a$-S-$(CH_2)_b$-W, and $R^1O_2CCCH_2(CW)_{CO2}R^1$, wherein a and b range from 16 to 24, W is -O-, -O_2C-, -CO_2-, and -NHCO-.

35. (CURRENTLY AMENDED) The method of claim 29 wherein B^1 and B^2 [[may be]] are the same or different and are selected from the group consisting of glucose, galactose, fucose, sialic acid and carminic acid.

36. (CURRENTLY AMENDED) The method of claim 29 wherein L^1 and L^2 [[may be]] are the same or different and is polyethylene glycol having a molecular weight in the range of 1,000 to 4,000.

37. (ORIGINAL) The method of claim 29 wherein said lamellar structure is a compound selected from the group consisting of CH_3-$(Ch_2)_e$-X, CH_3-$(CH_2)_fCONH(CH_2)_g$-X, CH_3-$(CH_2)_fNHCONH(CH_2)_g$-X, CH_3-$(CH_2)_fOCONH(CH_2)_g$-, CH_3-$(CH_2)_fNH(CH_2)_g$-, $R^2O_2CCH_2(CY)CO_2R^2$, and $R^2O_2CCH_2CH_2(CY)CO_2R^2$; R^2 is a normal alkyl radical containing 16 to 24 carbon atoms; X is selected from the group consisting of carboxylate, sulfate, or phosphate; Y is selected from the group consisting of -$(CH_2)_k$-X, -$NHCO(CH_2)_k$-X and $CH_2OCO(CH_2)_2$-CO^-_2; e ranges from 16 to 32, and f, g, and k range from 1 to 5.

38. (ORIGINAL) The method of claim 29 wherein said effector molecule is selected from the group consisting of an echogenic agent, a radionuclide, a paramagnetic agent, an optical agent, and a cytotoxic agent.

39. (ORIGINAL) The method of claim 38 wherein said effector molecule is an echogenic agent selected from the group consisting of perfluoropropane, perfluorobutane, sulfur hexafluoride, tetrafluoromethane, hexafluoroethane, octafluoropropane, decafluorobutane, dodecafluoropentane, and perfluorohexane.

40. (ORIGINAL) The method of claim 38 wherein said effector molecule is a radionuclide selected from the group consisting of I-123, I-131, Tc-99m, Re-186, Re-188, SM-152, Ho-155, Bi-202, and Lu-157.

41. (ORIGINAL) The method of claim 38 wherein said effector molecule is a paramagnetic agent selected from the group consisting of Gd-DTPA, Gd-DOTA, Gd-DTPA-*bis*(methoxyethyl)amide, and Mn-EDTA.

42. (ORIGINAL) The method of claim 38 wherein said effector molecule is an optical agent selected from the group consisting of a fluorophore that absorbs light in the range of 300 - 1200 nm, and a chromophore that absorbs light in the range of 300 - 1200 nm.

43. (ORIGINAL) The method of claim 38 wherein said effector molecule is a cytotoxic agent selected from the group consisting of fluorouracil, fluorouridine, sulfisoxazole, N'-(w-thiazolyl)sulfanilamide, sulfmethoxazole, and sulfisomidine.

44. (ORIGINAL) The method of claim 38 wherein said effector molecule is an optical agent selected from the group consisting of fluorescein and indocyanine green.

45. (ORIGINAL) The method of claim 38 wherein said effector molecule is perfluorobutane.

46. (ORIGINAL) The method of claim 38 wherein said effector molecule is I-131 or Tc-99m.

47. (ORIGINAL) The method of claim 38 wherein said target is selected from the group consisting of tumor cells, thrombi, monocytes, macrophages, eosinophils, neutrophils, lymphocytes, vascular endothelium, myocardial cells, hepatocytes, and an extracellular matrix surrounding any of the said cells.

48. (NEW) A method of targeting an effector molecule to a target site in a patient, said method comprising

providing to said patient an effective amount of a physiologically acceptable composition comprising an organized mobile multicomponent conjugate (OMMC) assembly comprising a lamellar structure selected from at least one component of table 3, said lamellar structure defining a void and having incorporated at least two binding compounds B^1 and B^2 selected from at least one component of table 2 bound to said structure by anchor regions A^1 and A^2 selected from at least one component of table 1 via linkers L^1 and L^2 selected from at least one component of table 4 and an effector molecule, said B^1 and B^2 binding to at least first and second affinity sites in said target site, wherein a position of B^1 and B^2 relatively self-adjust to form an OMMC ensemble resulting in enhanced binding of B^1 and B^2 to said affinity sites, wherein said effector molecule is provided to the target site.

49. (NEW) The method of claim 48 wherein said effector molecule is an imaging agent.

50. (NEW) The method of claim 48 wherein said effector molecule is selected from the group consisting of a fluorocarbon gas, a fluorocarbon liquid, a fluorophore, a paramagnetic agent, a chromophore, a radioligand, an x-ray opacification agent, and combinations thereof.

51. (NEW) The method of claim 48 wherein said effector molecule is selected from the group consisting of a cytotoxic agent, an echogenic agent, a chemotherapeutic agent, an antibiotic, and combinations thereof.

52. (NEW) The method of claim 48 wherein B1 is at least one saccharide and B2 is at least one anionic component.

53. (NEW) The method of claim 48 wherein B2 is selected from the group consisting of a carboxylate, a sulfate, and combinations thereof.

54. (NEW) The method of claim 48 wherein the effector is selected from the group consisting of an ultrasound agent, an optical agent, a paramagnetic agent, a radionuclide, an X-ray opacification agent, and combinations thereof.

55. (NEW) The method of claim 48 wherein the effector molecule is a chemotherapeutic agent.

56. (NEW) The method of claim 48 wherein A1 and A2 are the same or different and are selected from the group consisting of $CH3(CH_2)_a$-W wherein a=17-31 and W is a carboxylate salt, a sulfonate salt, a sulfate salt, a phosphonate salt, a phosphate salt, an ester, an amide, a sulfonamide, and a phosphate ester.

57. (NEW) The method of claim 56 wherein W is selected from the group consisting of a sodium salt, an ester, or an amide of fatty acids selected from the group consisting of octadecanoic (C_{18}), nonadecanoic acid (C_{19}), eicosanoic acid (C_{20}), heneeicosanoic acid (C_{21}), docosanoic acid (C_{22}), tricosanoic acid (C_{23}), tetracosanoic acid (C_{24}), pentacosanoic acid (C_{25}), hexacosanoic acid (C_{26}), heptacosanoic acid (C_{27}), octacosanoic acid (C_{28}), nonacosanoic acid (C_{29}), triacontanoic acid (C_{30}), and hentriacontanoic acid (C_{31}).

58. (NEW) The method of claim 48 wherein B1 is selected from the group consisting of a -C- or an -O- saccharide, a saccharosamine, sialic acid, lactose, sucrose, maltose, and salts thereof, and B2 is selected from the group consisting of $-(CH_2)_d-CO_2^-$, $-(CH_2)_d-SO_3^-$, $-(CH_2)_d-OSO_3^-$ and $-(CH_2)_d-OPO_3^{-2}$ wherein d=1-10; $-ArylSO_3^-$; DTPA, EDTA, DOTA, EGTA, amino acids, succinic acid, maleic acid, polypeptides, and salts and derivatives thereof.

59. (NEW) The method of claim 58 wherein the -C- or -O- saccharide is selected from the group consisting of glucose, mannose, fucose, and galactose.

60. (NEW) The method of claim 58 wherein the saccharosamine is selected from the group consisting of glucosamine, galactosamine, fucosamine, and mannosamine.

61. (NEW) The method of claim 48 wherein L1 is poly(ethyleneglycol)$_p$ (p= 40-50) and L2 is poly(ethyleneglycol)$_p$ (p= 40-50).

62. (NEW) The method of claim 48 wherein L1, L2 are bound to A1, A2 and B1, B2 through an amide bond, an ester bond, an ether bond, or a thioether bond.

63. (NEW) The method of claim 48 wherein L1, L2 are bound to B1, B2 through an activated succinylated linker.

64. (NEW) The method of claim 48 wherein A1, A2 are salts or derivatives of at least one of octadecanoic (C_{18}) acid, docosanoic acid (C_{22}), or octacosanoic acid (C_{28}).

65. (NEW) The method of claim 48 wherein A1 is a succinic acid ester of a PEG[50]stearate L1 and A2 is a fucossuccinamide ester of a PEG[50]stearate L2, the effector molecule is perfluorobutane gas, and the lamellar structure comprises docosanoic and octacosanoic acids sodium salts.

66. (NEW) The method of claim 48 wherein at least one of B1, B2 has an anionic functional group.

67. (NEW) A method of targeting an effector molecule to a target site in a patient, said method comprising

providing to said patient an effective amount of a physiologically acceptable composition comprising an organized mobile multicomponent conjugate (OMMC) assembly comprising a lamellar structure selected from at least one component of table 3, said lamellar structure defining a void and having incorporated at least two binding compounds B^1 and B^2 wherein at least one of B1 and B2 is anionic, bound to said structure by anchor regions A^1 and A^2 selected from at least one component of table 1 via linkers L^1 and L^2 selected from at least one component of table 4 and an effector molecule, said B^1 and B^2 binding to at least first and second affinity sites in said target site, wherein a position of B^1 and B^2 relatively self-adjust to form an OMMC ensemble resulting in enhanced binding of B^1 and B^2 to said affinity sites, wherein said effector molecule is provided to the target site.